



THE SIGNAL

*Newsletter of the
Bella Vista Radio Club*



VOL. 2, NO. 1 – APRIL 2019

Monthly Meetings: 1st Thursdays @ 7 p.m., Highland Christian Church, 1500 Forest Hills Blvd, Bella Vista
Club Call: N5BVA • Repeater: 147.255 +offset, pl 162.2 • Website: www.bellavistaradioclub.org

WEEKLY NETS:

3820 kHz Roundtable - Sundays @ 4 pm

147.255 Repeater Net - Wednesdays @ 8 pm

Wide Area Net - Wednesdays @ 9 pm on the N5UFO NWA Linked Repeater System

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- *James Bond ???

THE SIGNAL First Anniversary

Can you believe a year has already flown by since we brought you the first edition of THE SIGNAL? Well, it surely has.....

I want to thank EVERYONE who has contributed to the BVRC newsletter in making it a success, with all the wonderful articles and short stories you have bestowed upon us!!! (Keep 'em coming!!!) And..... a special thanks to Ron-K5XK who has been a mainstay for all the great member news and featurette items that he has provided!!!

Lastly a HUGE word of thanks to all of you - our beloved members - who have given us all the great reviews and encouragement. We will continue to strive to provide you with interesting and informative articles as we begin our 2nd year!

73, Don-K5DB, Editor



GETTING CLOSE!!! – SATURDAY, MAY 11, 2019

BVRC WILL BE PARTICIPATING IN THE ANNUAL ARQP THIS YEAR WITH THE CLUB'S CALL – N5BVA. THIS WILL BE THE FIRST TIME THAT N5BVA HAS SERVED AS A CO-BONUS STATION FOR THE ARQP. ALL BVRC MEMBERS ARE INVITED AND URGED TO PARTICIPATE AND HAVE FUN! YOU CAN EITHER OPERATE FROM YOUR HOME QTH, OR IF YOU WISH TO OPERATE WITH N5BVA, CONTACT ONE OF THE CLUB OFFICERS. OR...YOU CAN DO *BOTH*! C U ON THE AIR, MAY 11 !!! GET ALL THE INFO AT: WWW.ARQP.COM.

FROM THE DESK OF THE PRESIDENT



Throughout its history, amateur radio has made significant contributions to science, industry, and the social services. The economic and social benefit derived from amateur radio research has founded new industries, built economies, empowered nations, and saved lives.

Amateur radio leverages this position to invent and innovate from a unique perspective. We sit at the intersection of the social, economic, cultural and scientific communities. Big corporate R&D does not innovate in our non-restrictive way. Many now-commonplace communication technologies have their genesis in amateur radio.

Amateur radio enthusiasts are curious and inquisitive by nature. With probing and prying technical curiosity, we tinker and toy with electronics, radio, and other emerging technologies to innovate and create new ideas. This process brings meaningful value to not only our wonderful ham radio hobby, but also to the rest of the world!

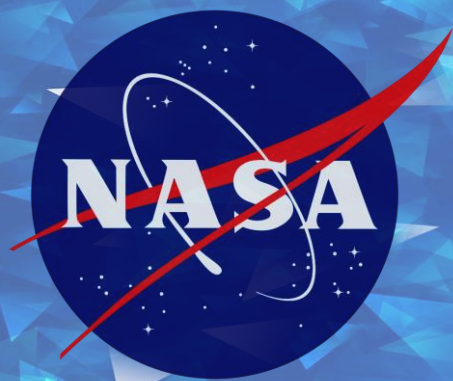
The “Do It Yourself” movement is alive and well in today’s modern world. Issue 17 of the free magazine HackSpace features Long-range radio communications made easy with LoRa. Also look at the Adafruit (Limor Fried AC2SN) Feather M0 RFM96 LoRa Radio at 433 MHz. <https://hackspace.raspberrypi.org/issues> .

Amateur radio operators find themselves hooked on DIY technology. We get a keen sense of accomplishment out of building a radio or station from the ground up that allows us to travel - through radio - to distant places. You're accomplishing something on your own. You're not just plugging stuff up, you are learning.

Just as important as technical innovation, look at the potential we have to mentor and provide the new innovators of today with valuable experience. The same technical curiosity we experienced in the early days of amateur radio can once again thrive in today’s landscape. Who knows, we may have a Nikola Tesla, or an Albert Einstein right under our nose? If you are interested, go to ham101.org

If the truth be told, amateur radio is more than “just a hobby” – it’s a hobby for life. Our contributions to the modern world are too numerous to list here. We really were “the original social network”. We really are valuable to our country and community and the entire world. We are the backbone of modern communications. We *are* amateur radio.

I am very pleased to be a Ham, and you should be too! I am honored to know you as a friend and fellow kindred spirit. Thank you, all my fellow Bella Vista radio Club friends. – Glenn, WB5L



BVRC MARCH MEETING FEATURES HISTORY OF THE U.S. APOLLO SPACE PROGRAM

A superb look back in time in the Apollo space program, was the topic of an excellent BVRC March meeting extravaganza as presented by Larry Haug. It was almost Standing Room Only for this month's meeting, and Larry did not disappoint an almost packed house.

Larry worked in the communications sector for NASA during the entire Apollo program, and was stationed at the Madrid, Spain tracking station.



Larry showed two launch videos of the massive Saturn-V rocket, a daylight and a night launch, explaining how the vehicle operated. Larry said that much of the tracking methods we use today (GPS, APRS, etc) was developed from the telemetry from the space program. He explained about the different frequency bands that were used in Apollo, and showed the tracking stations around the globe. We certainly appreciate Larry coming to visit us with such a highly informative presentation. Thanks Larry!



BVRC Secretary Wayne – K5UNX, presents Larry Haug with the BVRC Certificate of Appreciation.

B V R C Officers:**PRESIDENT****Glenn Kilpatrick – WB5L****VICE – PRESIDENT****Chris Deibler – KG5SZQ****SECRETARY****Wayne Patton – K5LINX****TREASURER****Marc Whittlesey – WØKYZ****TECHNICAL OFFICER****Steve Werner – K5SAW****REPEATER / CLUB CALL TRUSTEE****Fred Lemley – K5QBX****Appointed Positions:****PUBLIC INFORMATION OFFICER****MEMBERSHIP COORDINATOR****Ron Evans – K5XK****EMERGENCY COMMUNICATIONS****Chuck Healy – WØCEH****Lorrie Healy – N1RNI****HAM 101****Gregg Doty – KF5ZIM****V E TESTING****Glenn Kilpatrick – WB5L****2-METER NET COORDINATOR****Chris Diebler – KG5SZQ****SOCIAL MEDIA COORDINATOR****Sheila Katz****NEWSLETTER EDITOR****Don Banta – K5DB****NEXT BVRC MONTHLY MEETING**

**THURSDAY - APRIL 4, 2019
HIGHLAND CHRISTIAN CHURCH
1500 FOREST HILLS BLVD.
BELLA VISTA, AR**

APRIL PROGRAM:

***FAMOUS
RADIO HAMs***

Don-K5DB takes the podium for BVRC's April meeting, with what will be a different and FUN program. No technical talk, no operating topics, no contest jargon...just plain fun and entertaining.

Did you know that many people who have made significant contributions in history, electronics, politics, and science are hams? Come, have fun, and also possibly be surprised and amazed as Don unveils some of these personages. See you then!

BVRC VE REPORT

March 9, 2019



Congratulations!

Charles Morris – KF5VPJ – New Amateur Extra!
 Christopher Hubbell – KI5DJN – New General!
 Michael Rowe – KI5DJO – New General!
 Leigh Ann Hubbell – KI5DUT – New Technician!
 Dallas White – KI5DUU – New Technician!
 Steve Tindle – KI5DUV – New Technician!

Test sessions are conducted each 2nd Saturday of the month, 2 pm, at the Highland Christian Church in Bella Vista

*Help promote the availability of the Club's monthly test sessions.
 Tell your friends and acquaintances!*



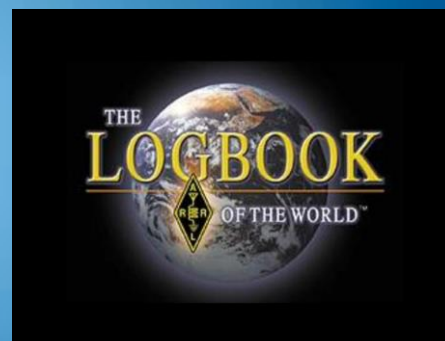
FROM ARRL: LOGBOOK OF THE WORLD TOPS 1 BILLION QSO RECORDS

In December, ARRL's Logbook of the World attained the major milestone of logging more than 1 billion contact records.

Today, LoTW has nearly 114,000 users in all 340 DXCC entities, and 75% of all DXCC applications are filed via LoTW.

Now, there's not a thing wrong with confirming a QSO for awards (DXCC, WAS, WPX, etc.) credit using the good ol' hard-copy QSL card. Many folks still love collecting them, and rightly so! However, if you're wanting a quicker confirmation method (provided both you and the station you contacted both upload the QSO), LoTW is much faster, there's no postage involved, and it's FREE to anyone who wants to use it – ARRL member or not. (You should join ARRL if you haven't!) ARRL has invested tens of thousands of dollars in this logging program and it has really paid-off.

If you're interested in using LoTW, but do not know how to go about it, contact myself or any BVRC member LoTW user, and we'll help you out. - 73, Don – K5DB





Each year, a sort of “fever” sets-in before and during the annual ARRL Field Day event. The excitement causes some of the oddest assumptions to occur:

FAQ's:

Who sponsors the Amateur Radio Field Day?

Field day is organized and sponsored by the American Radio Relay League, a national membership association for amateur radio operators.

When is Field Day and how long does it last?

Field Day is always the fourth full weekend of June, beginning at 1800 UTC Saturday and ending at 2100 UTC Sunday. If you set-up before the start of the event, your end time is 1800 UTC Sunday, a 24-hour duration.

Why is the general public allowed to operate amateur radio transceivers during Field Day?

They aren't. – Only operators who are licensed in the amateur radio service are allowed to serve as control operator of any radio at Field Day within the privileges of their individual license. However, the public are honored

guests and are certainly allowed to manipulate the radio controls under the watchful eye of their GOTA coach who is the control operator of that radio.

DEBUNKING THE MYTHS:

"There is no 15-minute-on-band rule for Field Day."

TRUE. – When posed this question, the ARRL responded with several comments including:

- "The rule requiring a station to stay on a band for 15 minutes once it has made a contact was removed."
- "Don't fall into the trap of trying to impose generally accepted contest rules on Field Day. Field Day is an operating event that traditional contesting rules don't necessarily apply to."
- "Bear in mind that 90% of the Field Day participants have no clue what a 15-minute or 6-band change rule is about. To them, they try 10-meter SSB. They make a couple of local QSOs, then discover that 10-meters isn't open. Is there really a valid reason for making them stare at the transmitter for 15 minutes before moving on?" Essentially the message is: *Relax* - It's Field Day.....not Sweepstakes.

"The FCC allows exceptions to its rules for Field Day."

MYTH - FALSE (YOU'VE GOT TO BE KIDDING. OF COURSE NOT.) – FCC rules Part 97 apply 24/7, all year long.

"Field Day operators inherit the frequency privileges of the call sign trustee and/or licensee."

MYTH - FALSE – FCC rules are not exempted for Field Day.

From Section §97.3.13 – "Control operator: An amateur operator designated by the licensee of a station to be responsible for the transmissions from that station to assure compliance with the FCC Rules." Field Day Operators are Control Operators of the station they are sitting in front of.

Sub-paragraph 'b' – "A station may only be operated in the manner and to the extent permitted by the privileges authorized for the class of operator license held by the control operator."

In other words, each control operator can only operate on frequencies they are personally licensed for. You don't inherit Extra privileges if you are a General working at any station, unless the at-your-side control operator of your station is an Extra and is watching over you. So, to address the next statement.....

"I am a Technician and operating the radio while the person running the log is an Extra so I can use Extra Frequencies."

TRUE – SURE, WHY NOT. – Just agree between the two of you that the logger is the control operator, but that you will be operating the radio. He/she is there to keep you in compliance with FCC rules and Extra Class privileges by monitoring your operation. However - if this Extra Class logger gets up to take a break, you are obligated not to transmit outside your license class privileges until he/she gets back.

"The ARRL Field Day rules don't talk about "Control Operators".

MYTH - FALSE. – ARRL Field Day Rule 4.1.1.3 – "As per FCC rules, a station must have a valid control operator present if operating beyond the license privileges of the participant using the station."

"During Field Day, the Control Operator must sign portable by appending /P to the call sign for CW or Digital, or say 'Portable' after the call on SSB."

MYTH - FALSE. – This rule was changed some thirty years ago. You do not need to sign as portable for Field Day.

"I brought the radio and I am an Extra. So, ALL operators, Extra or not, have Extra privileges."

MYTH - FALSE. - Privileges travel with the control operator....not the owner of the radio. See previous page.

"The ARRL rule 7.3.13.2.2 which states 'To qualify for the GOTA bonus, there must be a designated GOTA coach present and supervising the GOTA station at all times it is being operated,' means one and only one person can be the GOTA coach for the entire Field Day."

MYTH - FALSE. - The wording of the rule does not suggest one single person as GOTA coach, only that there always be a coach supervising the GOTA station when it is operating. Nonetheless, some folks read it as one person. To clarify this issue, the ARRL stated, "There can be multiple GOTA coaches but there must be at least one present at the station at all times it is in operation. Additionally, and of course, the operator must stay in compliance with the GOTA coach's license class privileges."

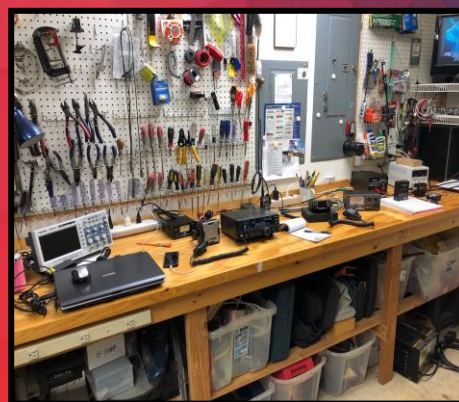
NEW BURC MEMBERS!!!



N4EW - New member Jacob 'Jake' Chambers, ex-K4JQV of Rogers, is considering working toward the DXCC Award and adding a Hexbeam. Jacob has a variety of other hobbies, including archery, fly fishing, chess, rock climbing, flying gliders, and falconry! The photo shows Jake and Velma, his red tail hawk after their first successful hunt.

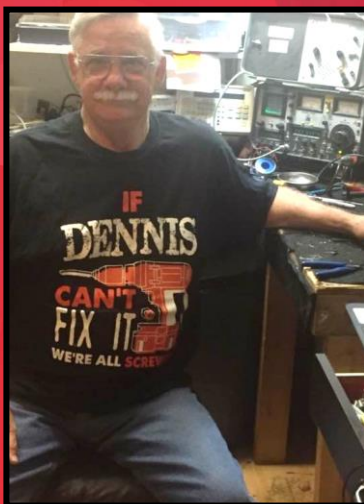


K15BMS - Steve Snyder lives in Grove, OK. He retired to Grand Lake from the securities industry. He runs a Yaesu FT-450d and a 25w mobile radio, feeding a Jetstream JTV680f and a Tram 1280 for VHF. Although only being in the hobby for 6 months, Steve is enjoying it immensely and looks forward to learning more in the future.



KC0SYN - Jeremy Walker, Pineville MO with his Icom IC-746, and his homebrew 2-mtr antenna.

KA4AFE – BRVC also welcomes Dennis Robinson to the Club family! Dennis is the “go to” repair technician for many hams in the NWA area. (Nice t-shirt, Dennis, hi hi.) His antenna is a Tennadyne T-10 log periodic for 10-20 meters.



THE SIGNAL had the pleasure of welcoming the Fowlers – Allan, KF5ROH and Carol, KG5BJW – to the BVRC family in last month's issue, but it was an even greater pleasure to meet them and have an eyeball QSO at the March meeting! Great folks from the Eureka Springs area!

The Signal also welcomes these fine radio amateurs to the BVRC ranks!

(No pics available at presstime)

KW5SVB – Scott Baker, Rogers

KA5DVS – James Bennett, Fayetteville

KI5DJP – Scott Branyan, Rogers

WØMIX – Jesse Weiberg, Seligman MO

Bob Blankenship, Gentry

BVRC Member Spotlight

BILL DURHAM
KG5ZCI

This month, THE SIGNAL salutes another one of our newer members who we are pleased to count in the BVRC family, and who also submitted a great article in last month's issue on the "ups and downs" of FT-8 operation, Bill Durham-KC5ZCI.

Bill is retired from the University of Arkansas, but still serves as Professor Emeritus in Chemistry and Biochemistry at the UofA. He says that means "I'm no longer on the payroll, but they let me keep an office for now." His current role in this position is teaching, research, and service.

Bill became interested in ham radio as a teenager. In those early years, he was particularly attracted to electronics and radio-controlled airplanes. However, none of his circle of friends at that time were hams, so he says the interest virtually went nowhere.

When he renewed his ham interest and obtained callsign KC5ZCI, his elmer was Dan Puckett-K5FXB, who loaned him a Kenwood VHF/UHF transceiver. Bill says Dan helped him along with his myriad of questions and helped him make his first CW QSO.

Currently, Bill really enjoys FT-8. He says, "I have been trying to improve on CW, but 70 years of age is a bit slow." He also likes to build equipment.

Bill's current ham shack consists of an ICOM 7300, a Kenwood TM-722, RSP2proSDR, Atlas 180, and spiffy Swan 500.

When not involved with ham activities, Bill also enjoys painting with watercolor and colored pencils. He also has a relatively complete machine shop and woodworking facilities. He is currently restoring a 1941 Farmall tractor and some Cincinnati machine tools. And when he's not involved with those activities, he tends the garden and raises sheep and chickens.

Sounds like Bill's retirement is far from boring, hi hi.

Bill, like our many other great members in BVRC, we are honored and pleased that you became interested in the great hobby of amateur radio, and we count it a privilege to have you in BVRC!



**From Ron – K5XK
BVRC Membership Director**

KG5CUT - Jerry, a new General in Bella Vista is already participating in the Club's Sunday afternoon "3820 Roundtable," using a new ICOM IC-7300 and End-Fed Half Wave ([EFHW](#)) antenna.

WA5BDU - While testing his new homebrew 40m CW transmitter, new member Nick was surprised when called by Stan, K5VR/Mobile (CW), on his way home from work at Mercy Med Center in Rogers.

WD9AEN/M - Returning from IN/IL, Joe was able to bring-up the N5KWL/N5UFO 2 Meter Repeater near Eureka Springs from I-44, north of Springfield MO!

KF5ZIM - With Marc/WØKYZ's assistance, Gregg has progressed into digital modes, using Ham Radio Deluxe and ARRL's Logbook of the World software. Gregg is also set to begin the "CW Academy" this month to learn "the code" – Morse Code.

W5XNA - Kudos to Tom for successfully completing 'CW Academy,' Level 2 (objectives for Level 2 training are to increase one's speed above 15 wpm through practice with 'head copying' and sending, and to hone one's skills in conversational operating).

AF5YM - Steve reports that it was a long, cold winter for the Vandivers atop their beautiful mountain in the Ozarks of Newton County, with bouts of the flu and pneumonia.

K5SAW - Steve has been analyzing stations' on-air visual "signatures" on VHF/UHF. Among potential uses, the signatures could be helpful in identifying illegal repeater transmissions.

K5DB - Don's annual quest to activate dozens of counties in adjacent states' QSO Parties is underway, operating HF mobile distant NW Oklahoma in early March. Meanwhile, Don pursues DXCC on FT-8, with 74 of the 100 needed countries worked. His best DX has been the country of Mauritania in NW Africa. He also assisted grandson Damien (now ex-KG5MQJ) in acquiring a new '2 letter' call, K5ZB.

WØKYZ - Marc conducts daily HF propagation studies with on-air friends, checking individual band conditions on 40-6 meters. The advent of bandscopes and panadaptors has greatly facilitated their research in recent years.

KI5DJP - New member Scott is motivated. Scott passed both his Tech and General exams in the same VE Exam session, got his new call, and promptly joined BVRC.

KG5YJT - Jessie is pleased to have recently earned his Amateur Extra class license.

KCØSYN - New member Jeremy is active and participating in BVRC's Wednesday night nets; his close friend Sonja is also interested in the hobby, and studying for her Technician license.

N5KWL - In his 2nd year as chairman of the Arkansas Repeater Council, Tem manages proper frequency spacing of the state's 339 repeaters to prevent interference. With the use of a new Council automated [website](#), Tem can coordinate new repeater requests in a week. Previously, the process would take up to a year.

K5FWM - Sadly, Frank has announced that he will be moving to Texas later this year, to be closer to harmonics.

KA4AFE - New member Dennis has built the new '[BITX 40](#),' a 'hackable' HF transceiver kit for 40 Meters, and is impressed with the small radio's performance, especially for a base kit price of \$59.

KA5DVS - BVRRC welcomes James back to Fayetteville. James relocated from Silicon Valley, and is busy developing his www.QRPkits.com line and investigating other entrepreneurial projects. James loves "building stuff" and will do a monthly program for us soon.

KK6LNC - Jeffers and XYL Sonndra thank all those in the club who have prayed for them during his last surgeries. He is now "cancer free!" Jeffers adds, 'It proves Prayer Works.'

KØDKL - In addition to using a 40' long End-Fed Longwire through a tuner at its base, Dennis is experimenting with a '[Hamstick](#)' dipole at his Bella Vista condo.

K5GO - New member Stan was extremely active with potent signals from his [ZF9CW](#) Cayman Brac station during the ARRL DX Contests, on both the CW and Phone weekends, winning the CW-DX category as Single Operator, Low Power! (See: <https://contests.arrl.org/ContestResults/2019/DX-CW-2019-PrelimFullResults.pdf>).

KI5CAM - Clayton enjoys building and is interested in technical aspects of Amateur Radio. He currently uses a Motorola commercial radio converted for the ham bands.

***We Need Your News!** Tell us of your latest radio endeavor. Studying for a license upgrade? Planning or using a new radio, antenna, or accessory? New operating mode, etc? Send Member News to: [K5XK](#), or Don, [K5DB](#).*



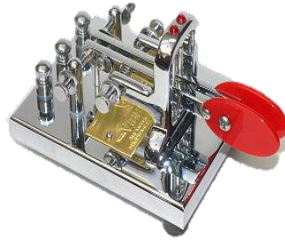
STRAYS.....

Don - K5DB participated in the Oklahoma QSO Party during the weekend of Mar. 9-10. Don completed a one-time "bucket list" item he had planned for many years in doing and traveled to the Oklahoma panhandle to activate the 3 tough counties which comprise the panhandle area - Cimarron, Texas, and

Beaver. He then proceeded to activate 24 additional counties the remainder of the weekend, and traveled over 1200 miles, having a ball all along the way. The two pics show Don's pickup at the farthest west county line of Cimarron and Texas, and one of three wind generator fields he drove through, which contained hundreds of units. One area was 7 miles long. Lots of wind to power 'em in western Oklahoma!



Is CW Dead? Is It Extinct? Not In BVRC!!!



A quick tabulation of the BVRC role indicates that these BVRC members are Morse Code enthusiasts: Nick-WA5BDU, Fred-K5QBX, Ed-KCØDX, Bob-WBØAUQ, Glenn-WB5L, Ron-K5XK, Wayne-K5UNX, Joda-KM5FY, Dennis-KØDKL, Phil-AF5XH, John-W5LNI, Don-K5DB, Jay-W5JAY, San-K5YY, Will-K5ITM, Jacob-N4EW, Steve-W5KI, Tom-W5XNA, Joe-W5AEN, and Stan-K5GO with others indicating increasing or renewed interest!

Recent Changes to the NWA Link System

As warmer weather has recently allowed, the NWA Link System has undergone some improvements and updates. Through a new cooperative arrangement with Kevin/W5KMP, a 442.000 repeater on Kessler Mountain has now joined the linked repeater system. Located on the southwest edge of Fayetteville, Kessler Mountain reaches 1,856 feet above sea level and will provide 'HT accessibility' in and around the Fayetteville area. The new repeater is #8 in the NWA Link System of mostly UHF repeaters, maintained by BVRC's Tem Moore, N5KWL.

The NWA Link System is now being used for BVRC's new 'Wide Area Net' at 9 p.m. on Wednesdays to communicate with more distant members not within reach of the Club's 147.255 2 Meter Repeater. The repeaters are currently in Bentonville, Rogers, Springdale, Eureka Springs, Green Forest, and Winslow. Extended coverage is provided from Fort Smith to Springfield MO. Updated frequencies for each of the repeaters is available [here](#), in the online Repeater Book. Each uses a 97.4 PL Tone.

To use the NWA Link System, key-up any of the individual repeaters and all others interconnected in the link will transmit simultaneously. The system is now identifying as N5UFO, the call of Nancy Moore, Tem's XYL.

Tem also reports that the 442.075 Siloam Springs repeater is only occasionally linked with the system - it is normally linked separately to the 444.700 repeater near Springdale.

"Hams know there is no other service like ours. No fraternity on earth has the power and magic to bridge culture, nationality, distance and disparate interests like amateur radio does. Moreover, few other avocations offer the opportunity for public service, personal development, technological advancement, camaraderie and sheer excitement. We are a very privileged group. Let's work together to advance amateur radio, and value our differences."

de John, HK3C



HAM 101

THE SIGNAL Monthly Column for New Hams **A SIMPLE RF COAX ANTENNA CHOKE**

IN THE PREVIOUS TWO ISSUES OF THE SIGNAL, WE HAVE DISCUSSED THE DIPOLE ANTENNA, IT'S CHARACTERISTICS, AND HOW TO ADJUST (TRIM) IT TO THE RESONANT FREQUENCIES DESIRED FOR IT TO OPERATE ON. WITH THIS LAST INSTALLMENT ON THAT SUBJECT, WE'RE GOING TO TAKE A LOOK AT A VERY EASY – YET VERY IMPORTANT – ITEM. IT'S DEFINITELY AN ITEM THAT YOU NEED TO INCLUDE IN YOUR DIPOLE INSTALLATION, WHICH IS ALSO VERY EASY TO MAKE. THIS ITEM IS USED BY THOUSANDS OF HAMS, AND IS APPLICABLE TO NOT ONLY TO DIPOLES, BUT FOR JUST ABOUT ANY ANTENNA YOU'RE GOING TO USE – THE RF CHOKE.

From the antenna connect point – which would be either the raw 'hot' and 'ground' leads of your coax, or a PL-259 connector (if your antenna is equipped with a SO-239 female connector) – from the end of the coax, measure back about 12-16 inches. From this point, form a loop with the coax that is 8 inches in diameter. Continue winding additional loops until you have 8 loops, and 8 inches diameter inside of the loops. Over the years, this has gained the old adage, "The 8-8 RF Choke".



Simple enough? You can then secure the loops with heavy duty plastic wire ('zip') ties placed at 12-3-6-and -9 o'clock on the loops. Some hams like to add extra protection from weather by wrapping the ties with heavy-duty electrical tape, and some wrap the entire collection of loops as seen in the photo to the left. The initial 12-16 inch run straight run of coax before you begin you 8" diameter circle of 8 loops is used to (of course) secure both sides of the loop to the antenna in the case of a beam, vertical, dipole with center support, etc.

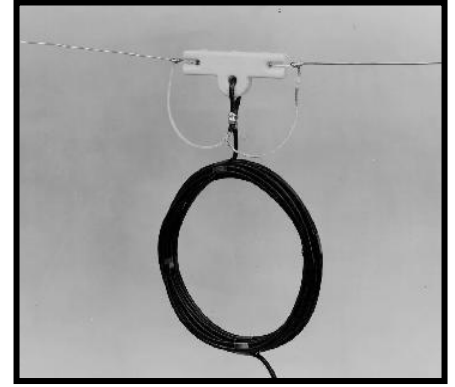
Then use 2 or 3 more of the heavy-duty plastic wire ties to mount the looped coax directly to the pole, mast, tower, etc. Then continue supporting the rest of the coax down the structure. When you are finished, your installation should look something like the photo at right. ----- You have just made and installed your first RF antenna choke!

For free-hanging dipoles, a smaller and lighter gauge coax such as RG-58, would be more advisable than the larger RG-8 to assist the antenna in sustaining the weight of the choke.
(See picture next page.)



Also, for a hanging dipole, the coax length from antenna connection point to the choke need only be 2-3", since no support is present to secure the choke to.

The way the choke works is very simple. A small amount of RF radiates from the shield wire in the coax. The RF emitting from the antenna surrounds the antenna with a very large pattern filled with RF. Some of it gets on to the coax and can travel down the entire length of the coax. Also, if there is a slight mismatch enough to cause even just a 1.5:1 SWR, some of that reflected RF comes back down the surface of the coax.



The RF choke creates an electromagnetic field on the chokes surface, and within the donut hole. This field attracts the stray RF and chokes it off before it travels down the coax, and it is dissipated within the electro-magnetic field. Hence the term "Choke".

In some ways, it almost acts like a ground radial and reflects slightly the RF radiated from the antenna, to a more upwards angle sending more of the signal towards the horizon where it belongs, and not into your radio room. But unlike a ground radial, the choke does not tune the antenna to any specific frequency. So, it is good for all frequencies from 160 through 6 meters. Vertical antennas that cover more than one band and do not require ground radials, benefit greatly from an RF Choke. As the antenna is used on different bands and across a wide range of frequencies within those bands, the SWR can vary quite a lot. As the SWR goes up, more stray RF likes to seek out the source of the RF (Your Radio) by the shortest and quickest route possible (The Coax). The RF choke prevents that from happening which helps your SWR a little and keeps RF feedback out of your radio room.

Dipoles, beams, verticals, slopers, and single-band antennas also benefit a lot from RF chokes for all the same reasons. Every antenna of every design still emits RF, and it can travel along the coax.

A VERY IMPORTANT NOTE THAT NEEDS TO BE CLEARLY UNDERSTOOD:

*An RF choke **will not prevent** the reflected RF caused by a **high SWR** from damaging your radio! Reflected RF caused by an impedance mismatch and is reflected back to your radio through the center conductor of the coax, can still hurt your equipment. Never assume that a choke will cure your high SWR problems. An RF choke only stops the stray RF on the surface of the coax from traveling down its length that causes RF feedback. Removing the stray RF can in many cases help the SWR, but just a little. **Only correcting the impedance mismatch** of the coax and antenna can fix your SWR problems.*



Now you know how to build and install an RF choke, the easy simple way.

You can wrap the loops side-by-side around an 8" plastic coffee can, PVC, etc. This doesn't hurt at all, and you may like the aesthetic appeal as in the picture at left. However, doing this doesn't increase the RF choke's choking level at all. It's just a simple RF choke to stop stray RF from traveling down the coax.

If you can count 8 loops, read the number 8 on a ruler or tape measure, and understand how a wire tie works, you'll be fine. Just remember to add 17-20 feet to your coax purchase for your choke, because each 8-inch loop uses just over 2 feet of coax (about 26 inches).

SHILOH 4TH GRADERS LEARN MORSE CODE

BVRC member Paul Dixon – KK5II and our good friend from the Nob Hill area east of Springdale, Vic Rozeboom – N5CS, had the recent pleasure of presenting a program on CW to the 4th Grade class at Shiloh Christian School in Springdale.

Paul tells us, “The class consisted of 24 students. They had been studying about Samuel Morse in history class, and wow, were they ever excited about learning the code! I was shocked at all the enthusiasm. They loved copying the code, and then sending their names in code on the code practice oscillators. It really was a fun day for the kids, Vic, and me.”

(Thanks for this really interesting and exciting news, Paul!)



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MOBILE CONTESTING

By Don -K5DB



Running mobile during a contest is much more than just driving down the highway, whistling the Beach Boys' "I GET AROUND", and being a "tourist" enjoying watching the countryside go by.

If you're going to run mobile, be competitive, and do it right, you have to be sober about it. Serious contest mobiling is a grinding, stressful at times, tight schedule scenario that involves structuring, coordination, cool-headedness, and safe driving.....but it's REALLY fun.

The big word in contest mobile operation is **BACKUP**. You need to do your best to have a backup plan for any "hiccup" that arises out there on the road. What good is it going to do you if you drive 300 miles the day before the contest to the starting point of your mobile run, and the next day you've only been operating a couple of hours when *something* happens – your battery goes dead, your power cable shorts-out and you have to troubleshoot costing you valuable operating time, your keyer or mike goes inoperative, etc. You're now dead-in-the-water, operatively speaking, and you have no other choice but to "pack it in", head back home, and waste a bunch of time, effort, and fuel for nothing. This has never happened to me, as I do my best in having a *backup plan* for any issue that occurs. My goal is to operate, not fix stuff out on the road during a contest. But if a problem does happen to occur, I have spare cables, connectors, batteries, etc. to enable me to keep operating. You know what ol' Ben Franklin said, "An ounce of prevention....." That's the *equipment* component.

The BIG factor in mobiling should obviously be *your vehicle* – good tires, belts, fluid levels, a fresh oil change, tune-up, etc.



Fig. 1

My mobile setup consists of the following:

Multiple connector battery studs (Fig. 1)

You usually won't be able to connect multiple power cables to flat-top stock studs. You can obtain these at an auto parts store.

Batteries & jumper cables (Fig. 2)

I do not run anything off the vehicle battery except the vehicle. I use separate, independent deep-cycle batteries for the rig and laptop. My largest battery powers the radio (of course).

It has a 240-minute reserve capacity with an 8 amp pull, which easily powers my Yaesu FT-450d for 6-8 hours, including SSB and the heavier duty cycle on CW. Of course, I shut the radio off while in transit between stops to save power. My smaller deep-cycle runs the laptop. I also have a third standard “just in case” battery that I can go to if per chance I run out of power with either of the other two main batteries. And lastly, if I were to have a problem with any of the three batteries, I have a second power cable running from the vehicle battery into the cab and run the radio off the vehicle battery, if I get in a “dire straits” situation (which has occurred once). I am never without power!



Fig. 2

I maintain that having a power setup such as this relieves the wear and tear on the vehicle's alternator, and also eliminates the need to idle the engine while stopped and operating on the side of the road, as when using the vehicle battery. Less wear and tear on the engine, less fuel usage. I do not operate while in motion. I operate while stopped.



Fig. 3

Ground strap to exhaust pipe (Fig. 3)

I learned this from a good friend of mine from the Kansas City area, WØFP. You can of course ground the rig to any part of the vehicle to eliminate alternator and vehicle computer module hash which works to a point, but also run a ground strap from the vehicle frame to the exhaust pipe. I have found doing this works really well in cases where you would operate the rig with the engine idling, or going down the road rag-chewing with other stations when you're not contesting-it reduces hash considerably.

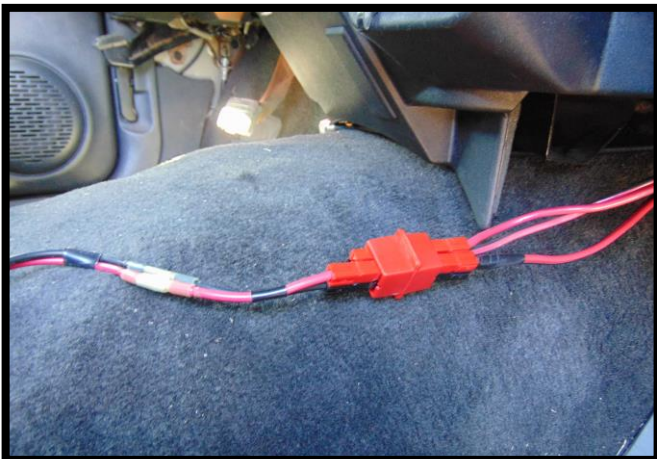


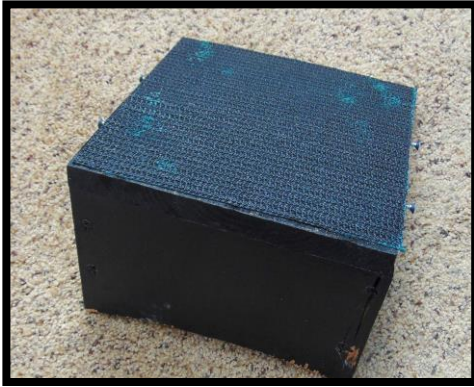
Fig. 4

Power cables, PowerPole connectors (Fig. 4)

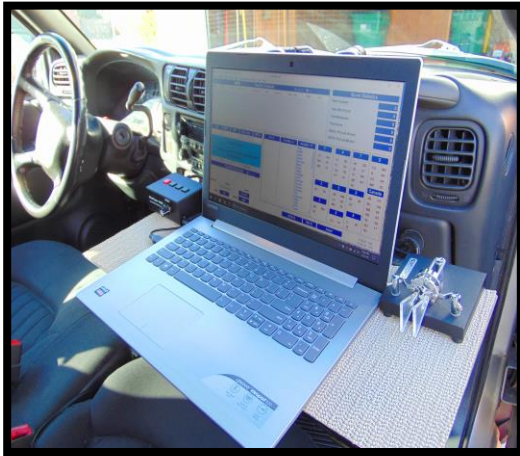
I use 10-gauge wire for power cabling. I use PowerPole connectors for *everything* DC in a mobile. They are awesome. (THE SIGNAL will have a feature article on these connectors later in the year.)

Radio and gear placement – I purchased my Chevrolet S-10 pickup, in particular, for three main reasons, and they all pertain to ham mobile operation: 1) It has a 3rd-door extended cab for ease of storing/removing gear, 2) The shifter is on the column and not on the floor – wide open spaces for radio installation on the “hump”, and 3) The passenger-side grab handle is not on the door post or at the top of the passenger door, as is the case with most other vehicles, but instead it goes across the top of the passenger side dash. (You'll see why that was a great feature for me on the next page.)

As you see in Fig. 5, I constructed a simple stand for the radio out of 1" pine lumber. I simply bungee-strap the radio to the stand and set it on the hump. I've never needed to secure the stand to the cab floor, it rides just fine as is, and never moves or slides.

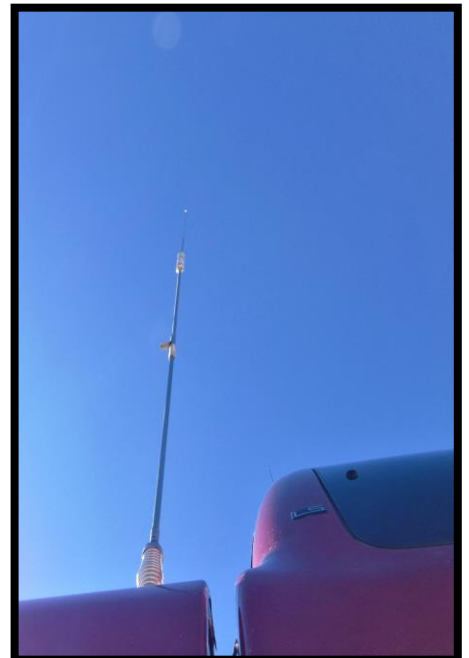
**Fig. 5**

This is where the S-10's grab handle was a boon for me. I constructed a "mobile operating table" out of PVC and Plexiglas for the laptop, my keyer, and cw paddle. (Fig. 6) All I have to do is hang the platform on the grab handle, and we're in business. (Fig.7)

**Fig. 6****Fig. 7****Fig. 8**

When I make a stop to operate, I simply park and walk around to the passenger side to my "mobile shack" and I'm ready to go. (Fig. 8)

The antenna - Over the years, I've heard too many stories of problems with automatic [tuning] mobile antennas. So, when I decided to go mobiling again after 30 years, I decided to use the same mobile antenna that I did when I had my Drake TR-4C in my '74 Chevy Malibu Classic – the old and reliable classic Hustler with manually interchangeable resonators (Fig 9). Yes, I do a lot of resonator switching by hand during a contest, but it only takes about 30 seconds each time I switch bands, and...I don't have any problems. The Hustler works just as good as the best mobile auto-antenna out there, in my opinion. I have worked numerous European and South American stations, and even Japan (from the top of Winding Stair Mountain in LeFlore County, OK during the 2016 OK QSO Party), from the S-10 with this great mobile antenna.

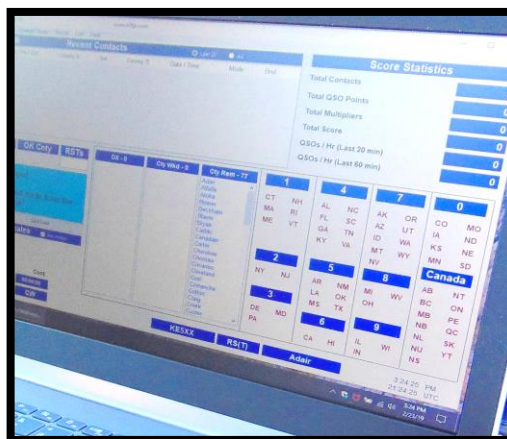
**Fig. 9**

**Fig. 10**

The deep cycle battery that runs the laptop sits behind the passenger seat. I was using a mid-market priced power inverter, until I won the fine heavy-duty inverter door prize at a BVRC meeting last year that I now use! (Fig. 10)

For state QSO party contest operation – as well as all the other major contests, for that matter – I don't think you can beat N3FJP logging software (Fig. 11). Scott-N3FJP, has separate logging programs for many of the state QSO parties (including Arkansas!) and other major contests. You don't have to manually set parameters for a particular contest from a generic logging platform. You simply download the contest file package you need from his website, adjust your preferences and you're ready to go. The scoring, county list, etc. is already programmed into that particular contest's package.

Well, we've got the vehicle and rig all covered and ready to roll. Now comes the final important element in the equation of successful contest mobile operation – the logistics.

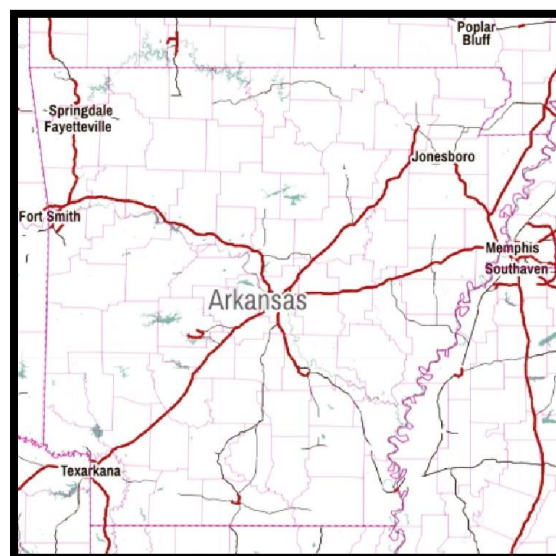
**Fig. 11**

The logistics bottom line of efficient mobile contesting operation is your **timetable**. As I said before, I operate while stopped. During a QSO party, where are my stops? On county lines. At a minimum, I stop on a bi-county line which enables me to "give out" two counties at a time and also log two QSOs at a time per each station I work. But whenever and wherever possible, I stop on a tri-county line or even a quad-county line (they're tougher to find, but they're out there!). I make each operation stop count as much as possible by putting-out as many counties as I can during a stop – more QSOs, more points.

The trick in amassing the maximum number of QSOs and counties that you activate lies in *trip planning* – how much time it will take me to travel between stops and how much time I am going to spend at each stop. For example, I spend a little more time at a tri-county line than at a bi-county line because it takes more time to transmit the extra county abbreviations. Plus, you normally get bigger pileups calling you when the other stations know they're getting a "three-fer" or "four-fer" as opposed to a "two-fer", and that more than likely will result in having to remain at that stop a little longer than usual.

The way I plan and calculate all this is nothing brilliant, just common sense and "putting the pencil" to it, so to speak.

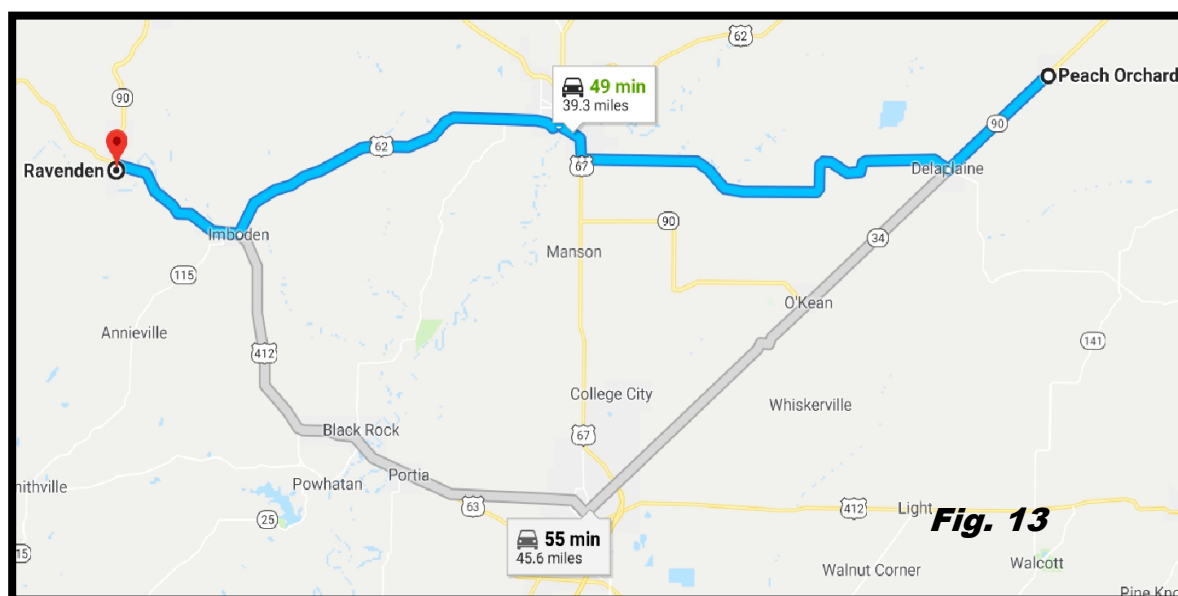
I first go to a website I use that superimposes county lines onto a map (Fig. 12). This is where I find my bi- and multi-county lines.

**Fig. 12**

I then construct the route I will take, crossing as many multi-county lines per stop that I can find, and figuring-out where my start point and end point will be. As an example for the Arkansas QSO Party, I would be figuring a 12-hour run (the duration for that particular contest), counting all travel time between county line stops and time spent at each one. I calculate all this out, then document in a Word document, stop by stop, transit by transit. I use good ol' Google maps for this.

For example, let's say I'm starting my route at 9 am local time near Peach Orchard, AR which is the Clay/Greene County line. I will spend about 30 minutes at this stop using CW and SSB on at least 40 and 20 meters (I always check 15 meters for openings, although most of the time that band comes-up nil. With the way propagation and sunspot cycles have been in the past, I haven't use 10 meters at all.)

Now I go to Google Maps/Directions plot the beginning and ending points for my transit to the next stop and drag/plot the beginning and/or end of the route exactly where I will leave my current stop and exactly where my next stopping point will be. In the example below (Fig. 13), it will be from 2 miles south of Peach Orchard to the intersection of Hill Gray Road and Lawrence CR-113 just north of Ravenden, AR, which is the dead-zero point of the tri-county line of Lawrence, Randolph, and Sharp counties. Google gives me the shortest practical route, alternate route, mileage, and time it will take for the transit.



It's going to take about 49 minutes, so I'm going to figure it for about an hour, taking into account terrain, slow traffic, possible road construction, etc.

I then enter this data on an Excel spreadsheet. (Fig. 14) I repeat this procedure for each stop and each transit that I will be driving and operating from, for the duration of the contest. I not only have an accurate timetable spreadsheet to follow, I have a screenshot from Google maps of each movement between stops and the highways to follow. (BACKUP: I also have a Rand-McNally hard copy road atlas, and pen and paper for logging...just in case!!!)

START	STOP	LOCATION	TIME SPENT
1400	1445	CRITTENDEN / CROSS / ST. FRANCIS	45m
1445	1530	Travel: Heth, AR - Whitton, AR	45m
1530	1600	MISSISSIPPI / POINSETT	30m
1630	1700	Travel: Whitton, AR - Hancock Junction, AR	30m
1700	1730	CRAIGHEAD	30m
1730	1815	Travel: Hancock Jct - Near White Oak, AR	45m
1815	1845	CLAY / GREENE	30m
1845	2000	Travel: Near White Oak - Ravenden, AR	1hr 15m
2000	2045	LAWRENCE / RANDOLPH / SHARP	45m
2045	2130	Travel: Ravenden, AR - AR-289	45m
2130	2200	FULTON / IZARD	30m
2200	2300	Travel: Ravenden, AR - Gassville, AR	1hr
2300	2330	BAXTER / MARION	30m
2330	0015	Travel: Gassville, AR - US-65	45m
0015	0045	NEWTON / SEARCY	30m
0045	0130	Travel: US-65 - Alpena HS	45m
0130	0200	BOONE / CARROLL	30m
0200		HEAD HOME	

Fig. 14

By trial and error, I can modify my mobile route and/or the counties I would be going through until I end-up with a route that will end very close to the same time the contest period ends, and will be fairly close to the home QTH at the route's end, and a fairly quick drive on home.

There may be some other techniques/methods of running contest mobile that other hams use that may be better than my "method of madness", but for me this has worked well.

To any of our BVRC members who are new to ham radio – should you ever decide to trek into the realm of contest mobiling (or casual mobiling, for that matter) – I hope that this little article will help you get started. Some of our newcomers might be saying, "Shoot! I don't even have a home station yet! – Then, put this on the back burner for the day when you might want to venture into this really fun aspect of our great hobby.

Whether you be a newcomer or a veteran operator, perhaps someday you'll be joining the ranks of us who REALLY enjoy contest mobiling, and *you'll* be the one out there running some counties with us in a future Arkansas QSO Party – and have a blast doing it! 73!

JAMES BOND 007 AND HAM RADIO???

When Sean Connery first hit the big screen as James Bond in the 1962 motion picture "Dr. No", isn't it ironic that in the VERY first scene of the VERY first picture of a series of Bond movies that would span decades ----- you see a ham radio..... A British Secret Service secretary unveils a hidden ham station to make a check-in call to the home office in London from Jamaica.



It's difficult to identify the receiver, but the transmitter is a British built K.W. Electronics Vanguard. It ran a pair of 6146's for the finals and had an RF output of 50 watts. It was manufactured from the late 1950s through the 1960s in Kent, England.

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